Remarks

Claims 1-14, 20, 41, 42, and 44-47 are currently pending in this application. Claim 43 is cancelled in this amendment. Claims 1, 2, 4, and 41 are amended to further limit the modified oilseed material to have an ESI of no more than about 70 mm. Support for these amendments can be found on page 5 in paragraph [0013]. Claim 20 is amended to state that the modified oilseed material comprises at least about 85 wt. % (dsb) protein; wherein the modified oilseed material has an MW_{50} of at least about 200 kDa; the modified oilseed material has a dispersion viscosity of at least about 0.5 Nsm^{-2}; and the modified oilseed material has an ESI of no more than about 70 mm. Support for this amendment can be found, *inter alia*, in pending claim 2.

Double Patenting

Claims 1-8, 20, 41, and 45-47 were provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-8, 10-16, and 19-43 of copending Application No. 10/432,094. Submitted herewith is a terminal disclaimer in compliance with 37 CFR 1.321(c). Reconsideration and withdrawal of this ground of rejection is respectfully requested.

Claims 42-44 were provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-8, 10-16, and 19-43 of copending Application No. 10/432,094 taken together with either one of Altemueller et al. (US 6,423,364) or Porter et al. (US 6,841,184). Submitted herewith is a terminal disclaimer in compliance with 37 CFR 1.321(c). Reconsideration and withdrawal of this ground of rejection is respectfully requested.

Claims 1-14, 20, 41, and 44-47 were rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims of US 6,841,184. Submitted herewith is a terminal disclaimer in compliance with 37 CFR 1.321(c). Reconsideration and withdrawal of this ground of rejection is respectfully requested.

Claims 42 and 43 were rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-29 of US 6,841,184 in view of Altemueller (US 6,423,364). Submitted herewith is a terminal disclaimer in compliance with 37 CFR 1.321(c). Reconsideration and withdrawal of this ground of rejection is respectfully requested.

Claims 1-14, 20, 41-43, and 45-47 were rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims of US 6,830,773. Submitted herewith is a terminal disclaimer in compliance with 37 CFR 1.321(c). Reconsideration and withdrawal of this ground of rejection is respectfully requested.

Claim 44 was rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-29 of US 6,841,184 in view of Altemueller (US 6,423,364). Submitted herewith is a terminal disclaimer in compliance with 37 CFR 1.321(c). Reconsideration and withdrawal of this ground of rejection is respectfully requested.

Rejection Under 35 §USC 102

Claim 20 was rejected under 35 §USC 102(e) as being anticipated by Muralidhara et al. (US 6,630,195).

The Muralidhara et al. starting material is derived from defatted oilseed white flake. This white flake is ground and protein is extracted. The extraction is conducted by contacting the white flake with an aqueous solution to which a basic material, such as sodium hydroxide is added. Base is used in an amount such that when the extraction is complete, the pH is between 7.0 and 8.5. When the extraction is complete, the extract is subjected to clarification to remove solids. The clarified extract is then subjected to membrane filtration to produce a retentate and permeate. The retentate is then subjected to a high temperature short time (HTST) treatment of up to 75°C for 10-15 minutes to destroy bacteria and then spray dried to give the final product.

The present starting material is also derived from defatted oilseed white flake which is ground and protein extracted. The extraction is conducted by contacting the white flake with an aqueous solution to which a basic material, such as sodium hydroxide is added. Base is used in an amount such that when the extraction is complete, the pH is between 7.0 and 8.5. When the extraction is complete, the extract is subjected to clarification to remove solids. Before the clarified extract is subjected to membrane filtration, the pH of the clarified extract is adjusted to between 7.1 to 7.7. The clarified extract is then subjected to membrane filtration to produce a retentate and permeate. The retentate is then subjected to ultra high temperature (UHT) treatment of 200-250°F for about 9 to 15 seconds to destroy bacteria and then spray dried to give the final product.

Since the Muralidhara et al. and the present invention processes are different, different products are formed. These different products also have different property values. The present claim 20 is directed to a modified oilseed material produced by a process which includes extracting oilseed material with an aqueous solution to form an oilseed extract; passing the extract through a filtration system including a microporous membrane to produce a permeate and a protein-enriched retentate; heating the protein-enriched retentate to a temperature of about 200-250°F at a pH of about 7.1 to 7.7 for about 9 to 15 seconds to form a pasteurized retentate; and spray drying the pasteurized retentate; wherein the modified oilseed material comprises at least about 85 wt. % (dsb) protein; wherein the modified oilseed material has an MW_{50} of at least about 200 kDa; the modified oilseed material has a dispersion viscosity of at least about 0.5 Nsm^{-2}; and the modified oilseed material has an ESI of no more than about 70 mm. It is noted that Muralidhara et al. is silent regarding an MW_{50} of at least about 200 kDa; a dispersion viscosity of at least about 0.5 Nsm^{-2}; and an ESI of no more than about 70 mm.

As stated in M.P.E.P. §2131, a claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. Since Muralidhara et al. fail to disclose a modified oilseed material produced by a process which includes extracting oilseed material with an aqueous solution to form an oilseed extract; passing the extract through a filtration system including a microporous membrane to produce a permeate and a protein-enriched retentate; heating the protein-enriched retentate to a temperature of about 200-250°F at a pH of about 7.1 to 7.7 for about 9 to 15 seconds to form a pasteurized retentate; and spray drying the pasteurized retentate; wherein the modified oilseed material comprises at least about 85 wt. % (dsb) protein; wherein the modified oilseed material has an MW_{50} of at least about 200 kDa; the modified oilseed material has a dispersion viscosity of at least about 0.5 Nsm^{-2}; and the modified oilseed material has an ESI of no more than about 70 mm. It is noted that Muralidhara et al. is silent regarding an MW_{50} of at least about 200 kDa; a dispersion viscosity of at least about 0.5 Nsm^{-2}; and an ESI of no more than about 70 mm. as required by present claim 20, Muralidhara et al. fail to disclose each and every limitation of present claim 20. As such, claim 20 is novel over Muralidhara et al. Reconsideration and withdrawal of this ground of rejection is respectfully requested.

Claims 1-14, 20, 41, 42, and 44-47 were rejected under 35 §USC 102(e) as being anticipated by Stark et al. (US 6,599,556).

The Stark et al. starting material is derived from defatted oilseed white flake. This white flake is ground and protein is extracted. The extraction is conducted by contacting the white flake with an aqueous solution to which a basic material, such as sodium hydroxide is added. Base is used in an amount such that when the extraction is complete, the pH is between 8.0 and 9.5. When the extraction is complete, the extract is subjected to clarification to remove solids. The clarified extract is then subjected to membrane filtration to produce a retentate and permeate. The retentate is then subjected to a high temperature short time (HTST) treatment of up to 76°C for 10-15 minutes to destroy bacteria and then spray dried to give the final product.

The present starting material is also derived from defatted oilseed white flake which is ground and protein extracted. The extraction is conducted by contacting the white flake with an aqueous solution to which a basic material, such as sodium hydroxide is added. Base is used in an amount such that when the extraction is complete, the pH is between 7.0 and 8.5. When the extraction is complete, the extract is subjected to clarification to remove solids. Before the clarified extract is subjected to membrane filtration, the pH of the clarified extract is adjusted to between 7.0 to 7.8. The clarified extract is then subjected to membrane filtration to produce a retentate and permeate. The retentate is then subjected to ultra high temperature (UHT) treatment of at least 180°F (82°C) for about 9 to 15 seconds to destroy bacteria and then spray dried to give the final product.

There are two differences between Stark et al. and the present invention.

1. In Stark et al., there is no pH adjustment of the clarified extract prior to membrane filtration. In the present invention, prior to membrane filtration, the pH of the clarified extract is adjusted to between 7.0 to 7.8.

2. In Stark et al., the retentate is subjected to a high temperature short time (HTST) treatment of up to 76°C for 10-15 minutes. In the present invention, the retentate is subjected to ultra high temperature (UHT) treatment of at least 180°F (82°C) for about 9 to 15 seconds.

Since the Stark et al. and the present invention processes are different, different products are formed. These different products also have different property values regarding emulsions. Stark et al. measure an emulsion oil release (EOR) property. The present invention measures an emulsion stability index property (ESI).

In the Stark et al. EOR procedure, 10 mg of product is suspended in 13 ml of 50mM of Na_3PO_4. After hydration, 7 ml of corn oil is added and the contents are homogenized to create an emulsion. Twelve ml of the emulsion phase is added to a centrifuge tube and the tube is spun for 30 minutes. An oil phase and an emulsion phase are created. The amount of the oil in ml is the EOR.

In the present invention ESI procedure, weighed separately are 10.7 g product, 75 g chilled water, and 75 g of cold lard. The water is added to a bowl followed by the product. The contents are mixed. The sides of the bowl are scraped down and the cold lard is added. The contents are mixed for 2 minutes to create an emulsion. One ml of the emulsion is placed on the center of a filter paper. The paper is placed in a 100°C oven for 30 minutes. Upon removal from the oven, the diameter of the fat spot is measured.

These two tests are measuring different values. Beginning on page 38, paragraph [0108] of the present disclosure, it is stated,

> An emulsion can have a physical strength (resistance to deformation) as well as a stability (persistence of emulsion survival). It is commonly assumed that a physically strong emulsion should be physically more stable also. In the method described here, more thermally stable emulsions will release less water and oil and consequently have a smaller fat spot or oil ring. It has generally been observed that there is an inverse correlation between the emulsion physical strength and the diameter of the oil ring ("Emulsion Stability Index" or "ESI"), suggesting that stronger emulsions are less thermally stable. (emphasis added)

In Stark et al., the EOR measures the physical strength of the emulsion. A low EOR value is good. In the present application, the ESI measures the thermal stability. A low ESI value is good. Further, since there is an inverse correlation between EOR and ESI, a good Stark et al. EOR value translates into a not so good present invention ESI value and vice versa. In the Stark et al. Table 4, the lowest EOR value is 0.20 ml. Stark et al. report that Profam™ 974 has an EOR value of 1.93. In the present specification on page 39 Table 7, the lowest ESI value is 50.0 mm. Profam™ 974 has an ESI value of 92.3. Thus, the lowest EOR of Stark et al. will have a higher ESI when compared to the present composition.

Rejection Under 35 §USC 103

Claim 43 was rejected under 35 §USC 103 (a) as being unpatentable over Stark et al. (US 6,599,556) alone or taken together with Altemueller et al. (US 6,423,364) or Porter et al. (US 6,841,184.

This rejection is rendered moot by the cancellation of claim 43.

For the foregoing reasons, it is submitted that the present claims are in condition for allowance. The foregoing remarks are believed to be a full and complete response to the outstanding office action. Therefore favorable reconsideration and allowance are respectfully requested. If for any reason the Examiner believes a telephone conference would expedite the prosecution of this application, it is respectfully requested that he call Applicants' representative at 314.659.3218.

If any additional fees are due in connection with the filing of this document, the Commissioner is authorized to charge those fees to our Deposit Account No. 50-0421.

Respectfully submitted,
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Date: November 16, 2007

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